

GENERAL NOTES

**LIMITATIONS OF OPERATIONS SUMMARY:** The Contractor's activities and work schedule shall be constrained by the following special limitations:

- A. Maintenance of traffic restrictions
- B. No concrete deck overlays shall be placed between October 15 and April 15, if for some unforeseen circumstance the deck overlay, or portion of a deck overlay, is not placed by October 15, regardless of the work remaining, deck repair shall be completed as per Item 511 and the unfinished deck shall be resurfaced with Item 404 asphalt concrete, 1" minimum depth, and opened to traffic. The Contractor shall place and maintain at his expense the asphalt wearing course until removed at his expense the following Spring when the deck overlay can be placed after April 15.
- C. No concrete patching, concrete sealing, joint sealing or structural steel coating operations shall be performed during the period beginning October 15 and ending April 15th.
- D. Accessible structural steel shall be painted only after access, structural steel retrofit and drainage work is complete on the bridge. The application of all three coats to an area shall in all cases be completed during the same construction season. Areas which do not receive all three coats during the same construction season shall be considered unsatisfactory and shall be resandblasted.
- E. The following requirements shall be met to minimize damage to the existing structure and embankments by misdirected or uncollected roadway drainage. Removal of existing drainage system downspouts, and supports shall be limited to no more than can be completely replaced by new drainage collection systems, downspouts, hoppers and supports within one month. Once removal work at a particular location begins, all other work at that location shall be diligently pursued until that new drainage system, including underground and all flashing work, is complete. Removal work at a particular location shall not begin until such time as the new materials to be installed at that location are on the job site, or proof of the materials availability for delivery has been furnished the Engineer.

Removals necessary for obtaining field measurements shall be replaced or otherwise temporarily flashed or collected to the satisfaction of the Engineer.

Partially completed work at a particular location shall not be left during a suspension of all work at any time, particularly during the winter months. The Contractor shall complete work, or provide temporary materials and installations acceptable to the Engineer, to collect and conduct roadway drainage from the bridge deck to the underground prior to a suspension of work.

The cost of performing the described work in sequence, and including temporary materials and installations, shall be included as incidental to the pertinent work items.

**ITEM SPECIAL- PREPERATION AND SHIPMENT OF STORED ALUMINUM BRIDGE RAILING:**

The contractor shall load the stored aluminum bridge railing onto his trucks, haul it to the ODOT Warrensville Yard at 25609 Emery Rd. in Warrensville Heights and unload the rail in a predesignated area. The Engineer shall notify the Warrensville Yard Superintendent at least 24 hours prior to all rail shipments. The cost of all the above work shall be included in the Lump Sum Price bid for Item Special- Preperation and Shipment of Stored Aluminum Bridge Railing.

**DOWEL HOLES:** Drilling of holes into concrete and the furnishing and placing grout into the holes shall be in accordance with Supplemental Specification 853 and Supplemental Specification 956 except the epoxy will be able to develop sufficient strength to withstand a pullout load of 6,200 pounds in a sample imbedded six (6) inches into the deck. Drilling dowel holes, furnishing and placing nonskrinking epoxy mortar will be measured as a unit and paid for at the contract unit price bid for Item 510, Dowel holes, as per plan. This price shall be payment in full for all material, equipment, labor and incidentals necessary to complete the work.

**EXISTING RIVET REMOVAL:** Existing rivets that are in holes used to connect new material to existing material, existing rivets that must be removed to remove existing steel, and rivets directed to be removed by the Engineer shall be removed with care.

All existing rivets to be removed shall first have the heads cut off and then the remainder of the rivet removed by drilling. Rivets that are countersunk both ends shall be removed by drilling. Punching may be used to remove loose fitting shanks. Rivet removal methods shall not damage base material that is to remain in place. Burning through the rivet shank is not an acceptable removal method. The Contractor shall submit details of the proposed rivet removal method for approval by the Engineer prior to beginning work. Any damage to existing material to remain in place due to the Contractor's removal operation shall be repaired to the satisfaction of the Engineer at the cost of the Contractor.

Payment for careful rivet removal shall be included with the appropriate bid item.

**CONNECTION BOLTS:** 5/8 inch diameter and larger shall be hex head galvanized ASTM A325 high strength bolts. New connection bolts shall be included for payment with the pertinent new material pay item.

**NEW STRUCTURAL STEEL** shall be galvanized after fabrication per 711.02. The Contractor shall be very careful in handling the galvanized steel to minimize scratches and abrasions of the finish. Wire rope slings and metal hooks shall be padded with wood, or reinforced fabric webbing shall be used for material handling. Scratches and abrasions of the galvanized finish shall be touched up in the field by "cold applied galvanizing" as directed by the Engineer. Connection bolts for galvanized steel members shall be mechanically galvanized per 711.02.

**BOLTED CONNECTION TO EXISTING STEEL:** At locations indicated on the plans and as directed by the Engineer, new structural steel shall be connected to existing structural steel using existing rivet or bolt holes and new bolts. Rivet removal procedures are described in the General Note sheet 4 of 19. Payment for rivet or bolt removal is included with pertinent bid items. Holes in new material shall be made by any of the following methods (to be selected by the Contractor):

- 1. Careful field measurements by the Contractor shall be used for locating holes in new material to be subpunched or drilled undersize in the shop. The hole shall be 3/16 inch less in diameter than the nominal diameter of the new bolt. The holes shall be reamed to proper size in the field after fit-up to the existing rivet or bolt holes.

**WEARING COURSE REMOVED, AS PER PLAN**  
*The asphalt wearing course removal, which shall include any deck waterproofing, shall be a separate operation from, and shall be performed prior to, any scarification or removal of portions of the portland cement concrete deck necessary for placement of the SDC.*

- 2. Furnish new structural steel without shop holes for connection to existing rivet or bolt holes. Holes in new material to be field drilled and reamed to match existing rivet or bolt location.

Rivet holes not used for bolted connections shall be left open.

Existing material without holes for connection to new material shall be field drilled.

All holes through new and existing material shall be reamed after assembly. The final holes shall be standard size, 1/16 inch larger in diameter than the nominal bolt diameter.

Additional requirements for holes shall be per 513.14.

Existing material shall be cleaned and prime painted before connecting new material.

The cost of all material, equipment and labor for connecting new material to existing material including reaming new or existing holes, and drilling new holes, shall be included as incidental to the pertinent new material pay item.

**REPLACE EXISTING RIVET OR BOLT WITH NEW HIGH STRENGTH BOLT:** All rivets marked to be removed and replaced in the plan sheets are to be paid for as incidental to the Item 513 structural steel. However, any bolt or rivet that is found to be badly deteriorated may be marked by the Engineer for removal. At the locations directed by the Engineer, existing deteriorated rivets or bolts shall be completely removed and new bolts installed. The new bolt shall be the same size as the original bolts, or 1/8 inch larger in diameter than the rivet. Existing rivet holes shall be reamed larger accordingly. In general, existing rivets are 7/8 inch diameter and new bolts shall be 1 inch diameter. The contractor shall verify existing rivet sizes.


The new bolts will be hex head galvanized ASTM 325 high strength bolts.

The cost of all labor, materials, and equipment necessary for the removal of existing rivets and complete installation of new bolts shall be included for payment in the unit price bid for each rivet replaced, Item 513, "Replace existing rivet or bolt with new high strength bolt, as per plan."

**REPLACEMENT OF EXISTING REINFORCING STEEL:** Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the contractor's concrete removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 200 pounds is included in Item 509 for this purpose.

**GENERAL NOTES CONTINUED**

Sheet 5 of 19.

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		RICHLAND ENGINEERING LIMITED MANSFIELD, OHIO	
<b>GENERAL NOTES</b> SUPERSTRUCTURE BRIDGE NO. LAK - 90 - 2342 (L & R) OVER THE GRAND RIVER			
LAKE COUNTY		I.R.90	
DESIGNED DHT	DRAWN JPS	TRACED JPS	CHECKED DT
REVIEWED DAP	DATE 9/13/89	REVISOR	